

wherein said insulating film includes an upper insulating film and lower insulating film being different in etching rate from each other;

a capacitor lower electrode assembly, including first and second lower electrodes being adjacent to each other through a part of said insulating film, being formed on said major surface of said semiconductor substrate to extend up to a vertical position substantially identical to that of said upper surface of said insulating film in said memory cell region;

first and second openings formed in the insulating film, and the first and the second lower electrodes formed within the first and second openings, respectively;

said first and second lower electrodes each of a cylindrical shape having an interior region;

wherein respective sidewalls of the first and the second lower electrodes are formed to extend in a longitudinal direction with respect to the major surface of the semiconductor substrate, each sidewall having a cross-section in the longitudinal direction which is substantially linear; and

a capacitor upper electrode being formed on said capacitor lower electrode assembly through a dielectric film to extend onto said upper surface of said insulating film, said upper electrode being formed on the interior region of each of the first and second electrodes,

said capacitor lower electrode assembly including a capacitor lower electrode part upwardly extending in opposition to said capacitor upper electrode and having a top surface and a bottom surface.

--25. (New) The semiconductor device in accordance with claim 12, wherein
a side surface of said capacitor lower electrode has a curved plane; and